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CONSTRUCTION OF THE GDR PARETZ-NIEDER NEUENDORF CANAL

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On 19 April 1951, the Council of Ministers of the German Democratic Republic (GDR) decided to build a canal between the Elbe and the Oder rivers, west of Berlin, to improve the water route and to accelerate water transport. The new waterway, about 34 kilometers long, branches off from the Havel River at Paretz, follows predominantly the course of the Paretz-Nauen, the Brieselang, and the Nieder Neuendorf canals, and empties into the Older-Havel Canal above Spandau at Nieder Neuendorf. Its advantage is that it shortens the route between the Elbe and the Oder rivers.

The following data concern the watercourses to be used in the construction of the canal.

The canals mentioned above have served, up to this time, principally to drain the adjacent pastureland. Only the Paretz-Nauen Canal is used for water transport. Its width is 20 meters, and its depth is 1.60 meters at normal water level so that ships of 750-ton capacity, so-called Grossplauermass ships (vessels large enough to use the Grossplauer Canal), can travel on it. The connecting Brieselang and Nieder Neuendorf canals have a width of only about 7 meters and therefore can be used only by manually operated barges.

The normal level of the Paretz-Nauen Canal lies about 65 centimeters below the mean water level of the Havel River. Ships coming from the Havel must therefore pass through the Paretz lock to get into the Paretz-Nauen Canal. Next to the lock is a hydraulic machine that pumps the water flowing toward the canal from the side ditches into the Havel.

Below Zeestow, the Brieselang Canal, which empties into the Nieder Neuendorf Canal north of Brieselang, branches off. At Brieselang is a dam that produces a water level of about one meter to keep the ground-water level at a height that is suitable for the rising terrain. Another dam, serving the same

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purpose, lies below the mouth of the Muhr Ditch at Nieder Neuendorf. Up to this dam, all the water from the side ditches of the Paretz, the Brieselang, and the Nieder Neuendorf canals flows toward the hydraulic pump works at Paretz, whereas the 3-kilometer-long end stretch of the Nieder Neuendorf Canal above the dam at the Muhr Ditch empties into the Havel River at Nieder Neuendorf. This drainage is accomplished by the hydraulic pump works at Nieder Neuendorf where the water level of the Havel lies about 65 centimeter above that of the canal.

In planning the new canal, the problem was to find a solution which takes into account equally the technical transportation interests, as well as the matters concerning water regulation. The simplest solution consisted in changing the existing stretches of canal as little as possible and in building locks for the ship traffic at the individual points of fall. In this case, two new locks would have to be built so that with the existing lock at Paretz, the shipping would have to overcome three water levels. From a technical transportation viewpoint, this solution would be very unsatisfactory, since a delay would occur at each lock that would correspond to a lengthening of the route by 5 kilometers. Therefore, a solution had to be found which makes its possible to get along with just one lock, without, at the same time, adversely affecting any agricultural interests.

The consequence of giving up the second and third lock would be that the upper and lower canal pools would have the prevailing water level of the Havel, in which case, low-lying terrain would be flooded. Since such inundations are not tolerable from the agricultural viewpoints, particularly since they would nullify the effect of the previous arrangements made for the improvement of the terrain along the canal, dikes that are above high-water level must be built on both sides of the canal as protection against the Havel. Furthermore, hydraulic pumps are to be installed on the inland side of these dikes to pump the water from the drainage ditches into the canal. In this way, the good drainage of the meadow land is assured, and an increase of crop yields is achieved. Since this solution is most favorable from an agricultural as from a technical transportation viewpoint, the canal construction will be carried out along these lines.

The watercourses used for the new canal occasionally exhibit sharp bends which cannot be negotiated by larger ships and must therefore be considerably moderated. In some sections, straight cuts will have to be made, and these will serve to shorten the canal. The longest cutoff is 11 kilometers long. It begins 5 kilometers west of the village of Schoenwalde, cuts through the Schoenwalde forest, and ends at Nieder Neuendorf at the point where the Oder-Havel Canal empties into the Havel River. The total spoil for the canal construction amounts to about 4.2 million cubic meters.

In its course from Paretz to Nieder Neuendorf, the canal crosses several highways and railroad lines, including the Berlin-Hamburg highway at Dyrotz-Wustermark and the Berlin-Stendal and Berlin-Wittenberge railroad lines. Therefore, the new construction or reconstruction of a number of highway and railroad bridges becomes necessary. Furthermore, some small weirs, as well as several siphons for conducting water ditches underneath the canal bottom, must be built. A particularly difficult piece of construction work is the erection of canal dikes in the Wublitz Lake at Buchow-Karpzow, because the substratum consists of sapropel, which reaches another great depth. At this point, considerable amounts of ground must be dumped to get sturdy dikes.

The canal will first be built 33 meters wide and 3 meters deep and thus will have the same dimensions as the connecting Oder-Havel Canal: This is a sufficient size for the traffic of Grossplauermas ships. To make it possible for individual ships of 1,000-ton capacity to pass through the canal, by-passes will be constructed every 5 kilometers. Also, the new lock at the west end of the Schoenwalde Forest, whose greatest fall amounts to 2.25 meters, is being built for 1,000-ton ships; it will have a usable length of 85 meters and a width of 12 meters.

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For a later enlargement of the canal for two-ship traffic of 1,000-ton ships, a deepening to 3.50 meters is necessary. This enlargement is already being taken into account in the present construction in that the canal banks which have to be dug out in any widening process are being secured only with reedy plantings.

The costs of the first construction will, according to rough estimates, amount to about 35 million Deutsche mark. The construction was assigned to the Brandenburg Bau-Union (Brandenburg Consolidated Construction Company), except for the earthwork operations between Paretz and Brieselang, which are being carries out by the Directorate General for Water Transport. The construction work has already begun and will be completed in about a year.

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